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| 09/626,300 | 07/24/2000 | Neil G. Jacobson | X-651 US | 7042 |

7590 02/25/2004

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| EXAMINER |
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VO, LILIAN

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| ART UNIT | PAPER NUMBER |
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2127

DATE MAILED: 02/25/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/626,300

Applicant(s)

JACOBSON, NEIL G.

Examiner

Lilian Vo

Art Unit

2127

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 - 7 and 14 - 18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 - 4 and 14 - 18 is/are rejected.
- 7) ☒ Claim(s) 5 - 7 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. Claims 1 – 7 and 14 – 18 are pending. Newly added claims 14 – 18 have been considered with Group I. Claims 8 – 13 have been withdrawn.

Election/Restrictions

2. Applicant's election with traverse of Group I in Paper No. 3 is acknowledged. The traversal is on the ground(s) that a restriction requirement is unsupportive because the claims must be mutually exclusive for the claims to be restricted to different species. This is not found persuasive because the restriction requirement was made under subcombinations disclosed as usable together in a single combination not under different species. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

The requirement is still deemed proper and is therefore made FINAL.

3. This application contains claims 8 – 13 are drawn to an invention nonelected with traverse in Paper No. 3. A complete reply to the final rejection must include cancelation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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5. Claims 1 – 7, 14 and 17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

6. **Claims 1, 5 and 14** recite the limitation "the activity level" in pages 2, 3 and 6, lines 6, 4 and 6, respectively. There is insufficient antecedent basis for this limitation in the claim.

7. **Claims 3 and 17** recite the limitations "the activity level" and "the steps" in page 2, lines 2 – 3 and page 6, lines 2 – 3, respectively. There is insufficient antecedent basis for this limitation in the claim.

8. **Claim 4** recites the limitation "a third function" in page 2, lines 8 - 9. Is this a different function or the same third function as recite in line 3 of the claim? An appropriate clarification is required.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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10. Claim 15 is rejected under 35 U.S.C. 102(e) as being anticipated by Trimberger (US 5,986,467).

The applied reference has a common Assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

11. Regarding **claim 15**, Trimberger teaches a method for allocating resources of one or more programmable logic devices (PLDs) to a plurality of functions in a system having one or more PLDs on which the functions are implemented (abstract), comprising:

monitoring activity levels of the functions (abstract, col. 2, lines 19 – 27, col. 5, lines 18 - 25); and

selectively reconfiguring selected resources of the PLDs in response to activity levels of the functions (col. 5, lines 18 – 42).

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 1 - 4 and 14 - 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lo et al. (US Pat. Application Publication US 2002/0156914 A1, hereinafter Lo) in view of Sharrit et al. (US Pat. 5,999,990, hereinafter Sharrit).

14. Regarding **claim 1**, Lo teaches a method for allocating resources to a plurality of functions in a system (abstract) comprising:

monitoring activity levels of the functions (page 1, paragraphs 8 – 9, pages 4 - 5, paragraphs 0047, 0049, 0050 and 0057 - 0058);

detecting when the activity level of a first function is decreasing (page 4, paragraphs 0057 – 0058);

selecting a subset the resources that implement the first function (page 4, paragraphs 0057 – 0058);

selecting a configuration bitstream for implementing a second function (page 1, paragraphs 8 - 9, page 5, paragraphs 0058, 0060); and

reconfiguring the subset of the resources implementing the first function with the configuration bitstream of the second function (page 4, paragraphs 0057 – 0058).

Lo teaches of allocating bandwidth resources to a plurality of functions, but he did not teach about programmable logic devices (PLDs) resource. Nevertheless, Sharrit teaches a communicator with a plurality of reconfigurable PLDs resource that can dynamically altered to perform any of the processing functions (abstract, col. 2, lines 35 – 50).

It is obvious for one of ordinary skill in the art to combine the teachings of Sharrit and Lo to reallocate the available resource such as bandwidth and/or PLDs as necessary so that dynamically balances utilization of the resource can be achieved (Lo: abstract).

15. Regarding **claim 2**, Lo teaches the method of claim 1, further comprising periodically sampling the activity levels of the functions (page 4, paragraph 0049).

16. Regarding **claim 3**, Lo teaches the method of claim 2, which further comprising determining whether the activity level of the first function is decreasing after the steps of sampling the activity levels of the functions a selected number of times (page 7, paragraph 85: bandwidth allocation adjustments made after several iterations of paths occupancy.)

17. Regarding **claim 4**, Lo teaches the method of claim 1 further comprising:
detecting when the activity level of the second and a third function are increasing (page 4, paragraphs 0057 – 0059, 0063 – 68, page 6, table 1);

allocating the subset of resources between the second and third functions in portion to a ratio of increasing activity levels between the second and third functions (page 5, paragraphs 0058, 0059, page 7, paragraph 0085);

selecting a configuration bitstream for implementing a third function, wherein the configuration bitstreams for implementing the second and third functions proportionally allocate the subset of resources in proportion to the ratio of increasing activity levels (page 1, paragraphs 8 - 9, page 5, paragraphs 0058 – 0060 and page 7, paragraph 0085); and

reconfiguring the subset of the resources with the configuration bitstream of the second and third function (page 4, paragraphs 0057 – 0058, page 7, paragraph 0085).

Lo teaches of allocating bandwidth resources to a plurality of functions, but he did not teach about programmable logic devices (PLDs) resource. Nevertheless, Sharrit teaches a communicator with a plurality of reconfigurable PLDs resource that can dynamically altered to perform any of the processing functions (abstract, col. 2, lines 35 – 50).

It is obvious for one of ordinary skill in the art to combine the teachings of Sharrit and Lo to reallocate the available resource such as bandwidth and/or PLDs as necessary so that dynamically balances utilization of the resource can be achieved (Lo: abstract).

18. **Claims 14 - 18** are rejected on the same ground as stated in claims 1, 2 and 4 above.

Allowable Subject Matter

19. Claims 5 – 7 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Response to Arguments

20. Applicant's arguments filed on 8/7/03 have been considered but are moot in view of the new ground(s) of rejection.

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Conclusion

21. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: US 5,898,693 disclosed allocation of resource base on demand for usage of services increase and/or decrease.


22. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lilian Vo whose telephone number is 703-305-7864. The examiner can normally be reached on Monday - Thursday, 7:30am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on 703-305-9678. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Lilian Vo
Examiner
Art Unit 2127

lv
February 17, 2004


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